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"PATENT"

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appl. No. : 09/770,960 Confirmation No.: 7021
Applicant : Jo Ann H. SQUIER, *et al.*
Filed : January 26, 2001
TC/A.U. : 1772
Title : "CAVITATED LABELS FOR USE WITH COLD GLUE"
Examiner : Catherine A. SIMONE
Docket No. : 10247
Customer No. : 23455

DECLARATION UNDER 37 C.F.R. § 1.132

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

I, JoAnn H. Squier, hereby declare and state:

THAT I am a citizen of United States;

THAT I have received the degree of Bachelor of Science in Chemistry from State University Of New York at Potsdam;

THAT I have been employed by ExxonMobil Chemical Films Business since 1971, where I hold a position as Senior Development Engineer, with responsibility for research and new product development;

THAT I am a co-inventor of the invention disclosed in the present application; and

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THAT I am familiar with the prosecution of the present application, including the final Office Action mailed February 27, 2004, which I have closely reviewed. In particular, I have closely reviewed the following remarks at Section No. 6, page 3, of the final Action:

However, it is to be pointed out that both "cold seals" and "cold glues" are similar. According to the Merriam-Webster Dictionary, the word "seal" is defined as "something that makes secure" and the word "glue" is defined as "something that binds together". So, accordingly, both "cold seals" and "cold glues" are doing the same thing. Therefore, "cold seals" are the same as "cold glues". Furthermore, it is to be pointed out that in the specification of the present application on page 9, line 18 that "some cold glues are based on synthetic materials (resins)". Liu et al. discloses the cold seals to be made of rubber-based materials (see column 3, line 66 through column 4, line 1) and rubber is a resin. Thus, Liu et al. clearly teaches "cold glue adhesives" as claimed in the present invention.

For the reasons that follow, I declare that the above interpretation of the terms "cold glue adhesives" and "cold seal adhesives" is not how those terms would be interpreted by a person of ordinary skill in the art. Instead, as a person of ordinary skill in the art, I declare for the reasons that follow that the terms "cold glue adhesives" and "cold seal adhesives" are both well-known

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in the art, and "cold glue" is understood by those of ordinary skill in the art to represent a class of materials distinct from and not including "cold seals."

First, I provide a detailed explanation of the functional differences between cold glue adhesives and cold seal adhesives.

COLD GLUE ADHESIVES

Cold glue adhesives form a bond between two different substrates. A cold glue adhesive is applied at the moment of required adhesion, i.e., at the time of labeling. The cold glue is applied to a surface, i.e., the surface a label substrate, and the label with the cold glue on its surface is applied to a container, e.g., a bottle, thereby achieving a bond between the surfaces of the label and containers.

At the moment of application, the bond between the surfaces of the label and container is initially a weak bond, generally less than 200g/in. The bond, however, strengthens as the cold glue dries or cures over time, a period which can last up to two weeks.

Ultimately, the bond formed by the cold glue between label and container is called a destruct bond, meaning that the label, for example, might be destroyed when it is separated from the container.

If a cold glue adhesive is not applied at the moment of required adhesion, i.e., if a cold glue adhesive is applied to a substrate and first allowed to dry, and, after the cold glue has dried, the substrate with dried cold glue is applied onto a container in order to attempt to form a bond between the surfaces of the substrate and container, no bond is formed at all.

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COLD SEAL ADHESIVES

Cold seal adhesives are not applied at the moment of required adhesion. Cold seal adhesives are applied to a substrate in a separate operation from the final sealing application.

The cold seal adhesive is coated onto a substrate at a warm temperature and dried on the substrate. The cold seal feels tacky to the touch; a cold seal adhesive is, in fact, a type of pressure-sensitive adhesive.

The substrate with the coating of dried cold seal adhesive thereon is later sent to an end-user, such as a candy manufacturer. The end-user will use the substrate with the coating of dried cold seal adhesive thereon to seal a package.

The package is sealed by bonding of the cold seal adhesive to itself using pressure at the moment of packaging. A strong bond is *instantly* formed, with an immediate bond strength of greater than 400 g/in.

Thus, a cold seal adhesive only adheres to itself and requires only contact pressure to bond.

Furthermore, if separation of the cold seal-bonded layers of the substrate is attempted, the cohesive strength of the cold seal to itself is stronger than the film substrate -- that is, the cold seal/cold seal bond is stronger than the film layer. This causes the film layer to split within itself, causing irreparable film damage thus giving tamper evidence.

In short, a summary of the major functional differences between cold glue adhesives and cold seal adhesives is as follows:

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COLD GLUE ADHESIVES

Does not bond to itself or other substrate if dried first.

Applied at the moment of required adhesion to hold two different substrates (e.g., label and container) together to form a bond.

Weak initial bond, < 200g/in. Bond strength develops over time as glue dries.

COLD SEAL ADHESIVES

Bonds only to itself.

Two step process to get bonds:

- Applied to substrate in a first step, where glue is applied warm and then dried.
- Bond formed with itself in second step on packaging line (generally different physical location) using only pressure to induce seal.

Strong instant initial bond, greater than 400g/in.

Having provided the foregoing detailed explanation of the major functional distinctions between cold glue adhesives and cold seal adhesives, I will now explain why the major functional distinctions lead to the correct interpretation, as would be understood by those of ordinary skill in the art, that the term "cold glue adhesive" defines a class of materials distinct from and not including cold seal adhesives.

Specifically, the different functional applications of cold glue adhesives and cold seal adhesives necessitate that cold glue adhesives and cold seal adhesives must have very different

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formulations which result in cold glue adhesives having very different inherent properties from cold seal adhesives. The different formulations and thus inherent properties of cold glue adhesives are required in order for the cold glue adhesives to perform the different functions, identified in detail herein above, from the functions performed by cold seal adhesives. A working description of sample components of cold glue adhesives is provided at page 9, lines 7-20.

The Examiner appears to have concluded that cold glues and cold seals are the same because of the possible overlap of one component, namely "resins." This is an unreasonable conclusion.

The term "resin" is a very broad generic term describing any number of polymers and naturally occurring compounds. A computer keyboard and a car tire are both made from resins, but no one would ever confuse the two.

The fact that cold glue adhesives and cold seal adhesives may share a "resin" as a component of their formulations does not change the fact that the overall formulation of the cold glue adhesive is completely different from the overall formulation of a cold seal adhesive. The fact remains that the term "cold glue adhesive" is understood by those of ordinary skill in the art to represent a class of materials having particular formulations and functions distinct from and not including the class of materials encompassed by the term "cold seal adhesives."

Finally, a generic definition of "glue" and "seal," as would be found, for example, in a Merriam-Webster dictionary, does not begin to capture the essence of the differences amongst cold glue adhesives and cold seal adhesives. For example, an epoxy glue, which is generally a

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two part system requiring combining the two parts to effect a bond or seal, is one type of glue. An epoxy glue, however, is different from a hot melt glue, which must be heated to flow, and is applied hot onto a substrate to hold the substrate label to a container and, as it cools, forms the bond. While a description of their components might indicate they have one or a few in common (e.g., 'resins'), their actual overall formulations and functional applications and end-uses are distinctly different.

I declare further that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code, and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Date: 4/26/04
Ann H. Squier